

2002 Final Power Rate Proposal Targeted Adjustment Charge for Uncommitted Loads Study Documentation

WP-02-FS-BPA-07A
May 2000



TABLE 2: FEDERAL SYSTEM SHEET 1 OF 2

SUMMARY OF FEDERAL SYSTEM LOADS AND RESOURCES IN THE PACIFIC NORTHWEST REGION
UNDER THE PACIFIC NORTHWEST ELECTRIC POWER PLANNING AND CONSERVATION ACT

MEDIUM LOADS

2002 RATE FILING: 02/07/00

2000- 1 OPERATING YEAR RUN DATE: 02/08/00

ENERGY IN AVERAGE MEGAWATTS	AUG 1-15	AUG 16-31	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR 1-15	APR 16-30	MAY	JUN	JUL	12 MO AVG
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PRE-2001 LOADS															
1 FEDERAL AGENCIES	147	147	139	143	151	168	162	163	155	143	143	137	136	145	149
2 FEDERAL GPU TRANS LOSSES	39	40	51	75	84	91	82	69	58	59	53	50	46	43	62
3 FEDERAL NGP TRANS LOSSES	96	96	89	94	114	132	136	128	111	103	103	98	98	97	108
4 USBR	161	161	109	41	2	2	2	2	4	50	50	117	151	169	67
5 DSI FIRM LOAD	2486	2486	1962	2078	2088	2488	1922	1382	1199	1049	1049	2156	2156	2464	1952
6 DSI FIRM LOSSES	65	65	51	56	61	77	60	43	35	29	29	58	58	64	55
7 SM & NON GEN PUB PURCH 1/	2076	2079	1889	1871	2291	2468	2686	2513	2292	2242	2243	1921	1972	2059	2190
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8 FIRM SYSTEM LOAD	5070	5074	4290	4358	4791	5426	5050	4300	3854	3675	3670	4537	4617	5041	4584
UTILITY TRANSFERS OUT															
9 EXPORTS 2/	1288	1288	1293	1192	1083	1103	1243	1245	1176	1192	1188	1278	1494	1492	1256
10 CONTRACTS OUT 3/	1268	1268	1310	1251	1673	1788	1532	1481	1188	1149	1148	1292	1307	1305	1379
11 CSPE TO WEST GROUP UTIL 4/	99	99	99	99	99	99	99	99	99	95	95	95	95	95	98
12 GEN PUB AGEN PSC PURCH 5/	1273	1285	1279	1509	1778	1878	2083	2021	1719	1495	1488	1410	1249	1314	1584
13 IOU PSC PURCHASE 6/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14 PUBLIC SALES POST-2001	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15 USBR SALES POST-2001	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16 IOU SALES POST-2001	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17 DSI SALES POST-2001	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18 FED DIVERSITY 7/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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19 FIRM LOADS	8997	9013	8271	8409	9424	10294	10007	9146	8036	7607	7590	8612	8762	9247	8901
HYDRO RESOURCES															
20 REGULATED HYDRO	6749	6022	5757	6096	5929	7130	5840	6289	5108	5220	4943	7671	6273	7033	6216
21 INDEPENDENT HYDRO	409	407	345	370	296	225	166	187	265	419	498	685	719	423	379
22 SUS. PKNG. ADJUSTMENT 8/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23 CAN. ENT. NON-FED(CSPE) 9/	22	22	22	22	22	22	22	22	22	21	21	21	21	21	22
24 CAN. ENT. NON-FED(CNDA) 10/	82	82	82	82	82	82	82	82	82	80	80	80	80	80	81
25 RESTORATION 11/	-26	-26	-26	-26	-26	-26	-26	-26	-26	-26	-26	-26	-26	-26	-26
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26 TOTAL HYDRO	7236	6507	6180	6544	6303	7433	6084	6554	5451	5714	5516	8431	7067	7531	6672

TABLE 2: FEDERAL SYSTEM (CONTINUED) SHEET 2 OF 2

SUMMARY OF FEDERAL SYSTEM LOADS AND RESOURCES IN THE PACIFIC NORTHWEST REGION
UNDER THE PACIFIC NORTHWEST ELECTRIC POWER PLANNING AND CONSERVATION ACT

MEDIUM LOADS

2002 RATE FILING: 02/07/00

2000- 1 OPERATING YEAR RUN DATE: 02/08/00

ENERGY IN AVERAGE MEGAWATTS	AUG 1-15	AUG 16-31	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR 1-15	APR 16-30	MAY	JUN	JUL	12 MO AVG
OTHER RESOURCES	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
27 SMALL THERMAL & MISC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28 COMBUSTION TURBINES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29 RENEWABLES 12/	27	27	27	28	29	31	32	31	31	30	30	27	27	27	29
30 COGENERATION	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31 IMPORTS 13/	197	197	230	255	271	340	314	270	203	204	173	82	174	205	227
32 CONTRACTS IN 14/	400	400	512	512	512	512	512	512	512	511	511	399	511	322	477
33 LARGE THERMAL 15/	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	0	0	1000	1000	875
34 NON-UTILITY GENERATION 16/	5	5	13	13	16	19	19	19	17	16	16	15	16	13	15
35 RESOURCE ACQUISITIONS 17/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36 AUGMENT PURCHASE POST 2001	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37 TOTAL RESOURCES	8865	8136	7962	8352	8131	9336	7961	8386	7214	7475	6246	8954	8795	9098	8296
RESERVES MAINTENANCE & DISTRIBUTION LOSSES															
38 HYD SM THRM & MISC RES 18/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39 LARGE THERMAL RESERVES 19/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
40 SPINNING RESERVES 20/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41 FEDERAL HYDRO MAINT 21/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42 FED TRANSMISSION LOSSES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43 NET RESOURCES	8865	8136	7962	8352	8131	9336	7961	8386	7214	7475	6246	8954	8795	9098	8296
SURPLUS/DEFICITS															
44 FIRM SURPLUS/DEFICIT	-132	-877	-308	-56	-1293	-959	-2046	-761	-822	-132	-1344	343	33	-149	-605

NOTE: 1. THE FOLLOWING CONTRACTS ARE SHOWN AS POWER SALES THROUGH THE STUDY HORIZON.

A. BPA TO BURBANK: PS & C/N/X C. BPA TO PASADENA: PS & C/N/X

B. BPA TO GLENDALE: PS & C/N/X D. BPA TO SCE: PS & C/N/X

2. SCE TO BPA: OPTION ENERGY IS NOT INCLUDED IN THIS STUDY.

3. BPA TO SCE: OPTION CAPACITY IS INCLUDED THROUGH OY 2004.

4. THE FOLLOWING CONTRACTS ARE RESOURCE OPTIONS AND NOT INCLUDED THROUGH THE STUDY HORIZON.

A. BURBANK TO BPA: SUPPLEMENTAL ENERGY C. PASADENA TO BPA: SUPPLEMENTAL ENERGY

B. GLENDALE TO BPA: SUPPLEMENTAL ENERGY D. SCE TO BPA: SUPPLEMENTAL ENERGY

TABLE 2: FEDERAL SYSTEM SHEET 1 OF 2

SUMMARY OF FEDERAL SYSTEM LOADS AND RESOURCES IN THE PACIFIC NORTHWEST REGION
UNDER THE PACIFIC NORTHWEST ELECTRIC POWER PLANNING AND CONSERVATION ACT

MEDIUM LOADS

2002 RATE FILING: 02/07/00

2000- 1 OPERATING YEAR RUN DATE: 02/08/00

PEAK IN MEGAWATTS	AUG 1-15	AUG 16-31	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR 1-15	APR 16-30	MAY	JUN	JUL
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PRE-2001 LOADS														
1 FEDERAL AGENCIES	197	197	187	198	206	236	220	228	216	200	200	190	191	193
2 FEDERAL GPU TRANS LOSSES	64	75	102	140	152	163	153	138	117	116	102	86	73	66
3 FEDERAL NGP TRANS LOSSES	148	148	154	174	206	235	253	252	219	199	199	184	157	150
4 USBR	199	199	157	76	7	4	4	3	9	100	100	170	198	204
5 DSI FIRM LOAD	2496	2496	1970	2086	2096	2498	1930	1389	1216	1056	1056	2166	2166	2474
6 DSI FIRM LOSSES	72	72	59	67	73	92	75	53	44	36	36	72	65	72
7 SM & NON GEN PUB PURCH 1/	3108	3108	3086	3250	3696	3910	4202	4285	3866	3745	3745	3284	3091	3053
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8 FIRM SYSTEM LOAD	6284	6295	5715	5991	6436	7138	6837	6348	5687	5452	5438	6152	5941	6212
UTILITY TRANSFERS OUT														
9 EXPORTS 2/	2376	2376	2350	2241	1907	1914	2071	2074	2061	2094	2094	2205	2514	2527
10 CONTRACTS OUT 3/	2057	2057	2104	2044	2637	2785	2526	2481	2055	1999	1999	2111	2117	2061
11 CSPE TO WEST GROUP UTIL 4/	192	192	192	192	192	192	192	192	192	186	186	186	186	186
12 GEN PUB AGEN PSC PURCH 5/	1360	1308	1439	2010	2337	2636	2695	2725	2306	2037	2036	1868	1476	1294
13 IOU PSC PURCHASE 6/	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14 PUBLIC SALES POST-2001	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15 USBR SALES POST-2001	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16 IOU SALES POST-2001	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17 DSI SALES POST-2001	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18 FED DIVERSITY 7/	-926	-921	-944	-961	-943	-711	-717	-721	-897	-848	-847	-949	-948	-910
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19 FIRM LOADS	11343	11307	10856	11517	12567	13954	13604	13099	11404	10920	10906	11573	11287	11370
HYDRO RESOURCES														
20 REGULATED HYDRO	16010	16049	16133	16217	16618	18119	18165	18000	17430	17255	17160	17230	17467	16061
21 INDEPENDENT HYDRO	707	719	701	716	691	650	613	741	800	817	816	846	847	725
22 SUS. PKNG. ADJUSTMENT 8/	-100	-1189	-2116	-1156	-2244	-1455	-5369	-3772	-4341	-4007	-5272	-1200	-3861	-700
23 CAN. ENT. NON-FED(CSPE) 9/	43	43	43	43	43	43	43	43	43	42	42	42	42	42
24 CAN. ENT. NON-FED(CNDA) 10/	142	140	142	147	142	147	141	144	141	151	139	138	139	144
25 RESTORATION 11/	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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26 TOTAL HYDRO	16802	15762	14903	15967	15250	17504	13593	15156	14073	14258	12885	17056	14634	16272

TABLE 2: FEDERAL SYSTEM (CONTINUED) SHEET 2 OF 2

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MEDIUM LOADS

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PEAK IN MEGAWATTS	AUG 1-15	AUG 16-31	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR 1-15	APR 16-30	MAY	JUN	JUL
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OTHER RESOURCES														
27 SMALL THERMAL & MISC	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28 COMBUSTION TURBINES	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29 RENEWABLES 12/	27	27	27	28	29	31	32	31	31	30	30	27	27	27
30 COGENERATION	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31 IMPORTS 13/	110	110	139	153	213	267	241	197	162	165	165	75	93	109
32 CONTRACTS IN 14/	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33 LARGE THERMAL 15/	1162	1162	1162	1162	1162	1162	1162	1162	1162	1162	0	0	1162	1162
34 NON-UTILITY GENERATION 16/	1	1	1	1	1	1	1	1	1	1	1	1	1	1
35 RESOURCE ACQUISITIONS 17/	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36 AUGMENT PURCHASE POST 2001	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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37 TOTAL RESOURCES	18102	17062	16232	17311	16655	18965	15029	16547	15429	15616	13081	17159	15917	17571
RESERVES MAINTENANCE & DISTRIBUTION LOSSES														
38 HYD SM THRM & MISC RES 18/	-837	-840	-843	-848	-867	-940	-940	-939	-913	-905	-900	-905	-917	-841
39 LARGE THERMAL RESERVES 19/	-174	-174	-174	-174	-174	-174	-174	-174	-174	-174	0	0	-174	-174
40 SPINNING RESERVES 20/	-356	-335	-312	-338	-321	-395	-310	-337	-310	-311	-271	-378	-368	-370
41 FEDERAL HYDRO MAINT 21/	-3263	-2761	-2770	-2752	-2705	-1866	-1408	-1883	-1915	-2061	-1805	-1756	-1635	-2785
42 FED TRANSMISSION LOSSES	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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43 NET RESOURCES	13471	12952	12134	13200	12588	15590	12196	13214	12116	12164	10105	14120	12823	13401
SURPLUS/DEFICITS														
44 FIRM SURPLUS/DEFICIT	2129	1645	1277	1682	21	1635	-1408	115	713	1245	-801	2547	1536	2032

NOTE: 1. THE FOLLOWING CONTRACTS ARE SHOWN AS POWER SALES THROUGH THE STUDY HORIZON.

A. BPA TO BURBANK: PS & C/N/X C. BPA TO PASADENA: PS & C/N/X

B. BPA TO GLENDALE: PS & C/N/X D. BPA TO SCE: PS & C/N/X

2. SCE TO BPA: OPTION ENERGY IS NOT INCLUDED IN THIS STUDY.

3. BPA TO SCE: OPTION CAPACITY IS INCLUDED THROUGH OY 2004.

4. THE FOLLOWING CONTRACTS ARE RESOURCE OPTIONS AND NOT INCLUDED THROUGH THE STUDY HORIZON.

A. BURBANK TO BPA: SUPPLEMENTAL ENERGY C. PASADENA TO BPA: SUPPLEMENTAL ENERGY

B. GLENDALE TO BPA: SUPPLEMENTAL ENERGY D. SCE TO BPA: SUPPLEMENTAL ENERGY

FOOTNOTES FOR TACUL DOCUMENTATION

Federal Table 2

1. BPA's small and nongenerating public agencies' purchases are requirements these agencies place on BPA under their power sales contracts and BPA's partnership program. BPA's obligation is each agency's net firm load requirement not served by its own dedicated resources. These contracts expire between June 30, 2001, and September 30, 2001.
2. BPA's exports include: BPA to Azusa, power exchange and capacity sale; BPA to Banning, power exchange and capacity sale; BPA to BART, power sale; BPA to Burbank, power sale and capacity/energy exchange; BPA to Colton, power exchange and capacity sale; BPA to Farmington, power sale (expires prior to rate period); BPA to Federal agencies, power sale; BPA to Glendale, power sale and capacity/energy exchange; BPA to M-S-R, power sale; BPA to other entities east of the continental divide, power sale; BPA to other entities in the Pacific Southwest, power sales; BPA to Palo Alto, capacity sale and seasonal energy (expires prior to rate period); BPA to Pasadena, power sale, capacity/energy exchange and seasonal energy exchange; BPA to Riverside, capacity/energy exchange, capacity sale and diversity exchange; BPA to SCE, power sale, capacity/energy exchange, environmental storage (expires prior to rate period), and option capacity; BPA to SCE Source, power sale (expires prior to rate period); BPA to BC Hydro for Canadian Entitlement; and BPA's Northwest-Southwest Intertie losses.
3. BPA's contracts out include: BPA to AVC, power sale, supplemental and entitlement capacity, deferred power exchange (expires prior to rate period) and WNP-3 settlement; BPA to Bandon, power sale; BPA to Big Bend Electric Cooperative, summer seasonal product; BPA to Central Electric Cooperative, summer seasonal product; BPA to Chelan County PUD, supplemental and entitlement capacity sale; BPA to Clatskanie, power sale; BPA to the city of Ashland, power sale; BPA to the city of Idaho Falls, power sale; BPA to Colockum, supplemental and entitlement capacity sale; BPA to Columbia Basin Electric Cooperative, summer seasonal product; BPA to Columbia River PUD, power sale; BPA to Columbia Rural Electric Association, summer seasonal product; BPA to Cowlitz County PUD, supplemental and entitlement capacity and power sale; BPA to Douglas County PUD, supplemental and entitlement capacity and power sale; BPA to Eugene Water and Electric Board, supplemental and entitlement capacity and power sale; BPA to City of Forest Grove, supplemental and entitlement capacity and power sale; BPA to Grant County PUD, supplemental and entitlement capacity and power sale; BPA to Harney Electric Cooperative, summer seasonal product; BPA to Idaho Power Company for Harney and Wells, BPA to Inland Power and Light, summer seasonal product; BPA to Kittitas County PUD, supplemental and entitlement capacity sale; BPA to Lewis County PUD, power sale; BPA to Lower Valley, power sale; BPA to Mason County PUD #3, power sale; BPA to City of McMinnville, supplemental and entitlement capacity and power sale; BPA to Midstate Electric Cooperative, summer seasonal product; BPA to Milton-Freewater, power sale; BPA to Modern Electric Cooperative, power sale; BPA to Monmouth, power sale; BPA to Montana Power Company, capacity/energy exchange; BPA to Nespelem Valley Electric Cooperative, summer seasonal product; BPA to Northern Wasco Electric Cooperative, power sale; BPA to Okanogan, supplemental and entitlement capacity and summer seasonal product; BPA to other entities, power sales; BPA to small and nongenerating public agencies, power sales; BPA to PP&L, capacity sale, supplemental and entitlement capacity sale, Southern Idaho exchange, and Centralia standby; BPA to PGE, capacity sale (expires prior to rate period), supplemental and entitlement capacity, and power

sale (expires prior to rate period); BPA to PSE, Baker Head loss, power sale (expires prior to rate period), and WNP-3 settlement; BPA to Ravalli Electric Cooperative, power sale; BPA to Richland, Ormet power sale; BPA to Salem Electric Cooperative, green power sale; BPA to SCL, supplemental and entitlement capacity sale; BPA to Snohomish County PUD, power sale; BPA to Springfield Utility Board, power sale; BPA to Surprise Valley, summer seasonal product; BPA to TPU, supplemental and entitlement capacity and power sale; BPA to Tillamook, power sale; BPA to United Electric Cooperative, power sale; BPA to Umatilla Electric Cooperative, summer seasonal product; BPA to Vigilante Electric Cooperative, summer seasonal product; BPA to Wasco Electric Cooperative, summer seasonal product; and BPA to Western Oregon Cooperative, power sale.

4. Columbia Storage Power Exchange (CSPE) is the sale of the Canadian share of downstream benefits under the Columbia River Treaty with Canada to a group of Northwest utilities, expiring April 1, 2003.
5. BPA's generating public agencies' purchases are requirements that these agencies place on BPA under their 1981 power sales contracts and BPA's partnership program. BPA's obligation is each agency's net firm load requirement not served by its own dedicated resources. These contracts expire between June 30, 2001, and September 30, 2001.
6. No investor-owned utility customers purchasing power under the 1981 power sales contract.
7. Federal diversity is a percentage reduction applied to the Federal system non-coincidental peak utility requirements. This is due to the fact that all peaking electrical loads do not occur simultaneously throughout the region.
8. Sustained peaking adjustment is a percentage reduction applied to the Federal hydro system to meet a capacity load of 50 hours per week. This adjustment also includes reductions for Federal hydro maintenance, spinning reserves, forced outage reserves, and summer flow augmentation on the Snake River and John Day hydro projects.
9. Canadian Entitlement Return non-Federal to the Columbia River Storage Exchange (CSPE) reflects the public agencies' and IOUs' obligation of Canadian Entitlement allocation to the Northwest entities of the CSPE, which expires March 31, 2003.
10. Canadian Entitlement Return non-Federal to Canada reflects the Federal system, public agencies' and IOUs' obligation of Canadian Entitlement allocation to Canada, which began April 1, 1998.
11. Restoration adjustments for the losses and gains of the hydro system due to Canadian storage under the terms of the Pacific Northwest Coordination Agreement. It is an obligation to those utilities that gained generation from the addition of Canadian storage, and a resource gain to utilities that lost generation from Canadian storage.
12. Federal renewable resources include: James River Wauna.
13. BPA's imports include: Azusa to BPA, power exchange and peak replacement; Banning to BPA, power exchange and peak replacement; BGP to BPA, supplemental energy (assumed to be zero); Burbank to BPA, exchange energy; Colton to BPA, power exchange and peak replacement; Glendale to BPA, exchange energy; other entities to BPA, power sale; Pasadena to BPA, exchange energy, peak replacement energy, and seasonal replacement energy; PP&L (Wyoming Division) to BPA for Southern Idaho, power sale; Riverside to BPA, exchange energy, peak replacement energy, diversity exchange energy, and seasonal exchange energy; Sierra to BPA for Harney and Wells; SCE to BPA, exchange energy (assumed to be zero), supplemental energy (assumed to be zero), environmental storage (assumed to be zero; expires prior to rate period), option energy, and peak replacement; and PowerEx to BPA for ABC, peak replacement energy, and for Palo Alto, peak replacement energy (expires prior to rate period).
14. Federal contracts in include: AVC to BPA, supplemental entitlement peak replacement and WNP-3 settlement; Chelan County PUD to BPA, supplemental entitlement peak replacement; Colockum to BPA, supplemental entitlement peak replacement; Cowlitz County PUD to BPA, supplemental entitlement peak replacement; Douglas County PUD to BPA, supplemental entitlement peak replacement; Eugene Water and Electric Board to BPA, supplemental entitlement peak replacement; Grant County PUD to BPA, supplemental entitlement peak replacement; City of Forest Grove to

BPA, supplemental entitlement peak replacement; Kittitas County PUD to BPA, supplemental entitlement peak replacement; MPC to BPA, exchange energy and peak replacement; Okanogan County PUD to BPA, supplemental entitlement peak replacement; other entities to BPA, power sale; PP&L to BPA, peak replacement and supplemental entitlement peak replacement; PGE to BPA, peak replacement (expires prior to rate period) and supplemental entitlement peak replacement; PSE to BPA, supplemental entitlement peak replacement and WNP-3 settlement; SCL to BPA, supplemental entitlement peak replacement; and TPU to BPA, supplemental entitlement peak replacement.

15. Federal large thermal includes the generation from WNP-2, operated by Energy Northwest.
16. Non-utility generation (NUG) resources include generation provided to BPA by independent power producers and resources included under the Public Utility Regulatory Policies Act (PURPA).
17. Resource acquisitions are resources BPA has identified and contracted for future purchase. When new Federal resource acquisitions are contracted for and/or on-line, they will be included in the loads and resources balance.
18. Hydro, small thermal and miscellaneous resources, and combustion turbine reserve requirements are estimated at 5 percent of the Federal capacity of these resources.
19. Large thermal reserve requirements are estimated at 15 percent of the WNP-2 nuclear project.
20. Federal spinning reserve is the reserve generating capacity maintained to provide a regulating margin for the automatic generation and frequency control of power generation.
21. Hydro maintenance is the sum of all Federal hydro project maintenance based on the mean of the 1983-84 through 1988-89 schedules submitted to the Northwest Power Pool.